

1.(currently amended): A combination direct/indirect liquid heating device comprising:

a tower having heat transferring materials in an upper portion;

a cold water inlet conduit in communication with a first end of said tower;

a hot water collection tank in communication with said tower, said tank adapted to collect

5 water and there form a water surface;

a hot gas manifold having a first end adapted to receive hot gases, said manifold positioned in the tank so as to be partially submerged below the water surface; and

a means of gas egress attached to a second end of said manifold and positioned above the
10 water surface in a vertically extending space in a middle portion of said tower, the said egress
means configured to prevent water from entering said second end of said manifold, said egress
means further configured to prevent the impedance of gas emanating said second end of said
manifold.

2.(original): The device as recited in claim 1 wherein said manifold comprises sections providing
15 parallel paths for the gas.

3.(original): The device as recited in claim 1 wherein said manifold comprises sections providing
a continuous path for the gas.

4.(original): The device as recited in claim 1 wherein exterior regions of said manifold comprises
protruding fins.

20 5.(original): The device as recited in claim 1 wherein a second end of said manifold terminates
with a vertical section extending upwardly into the tower.

6.(original): The device as recited in claim 5 wherein said vertical section comprises a baffle
impeding gas flow from the tower into the collection tank.

7.(original): The device as recited in claim 5 wherein said vertical section is terminated by the

means of gas egress.

8.(original): The device as recited in claim 1 wherein said means of gas egress comprises a cap configured to impede formation of laminar water flow around the periphery of said cap.

9.(original): The device as recited in claim 8 wherein said means comprises a flat region, a
5 conical peripheral region and a vertical cylindrical region.

10.(original): The device as recited in claim 8 wherein said conical peripheral region is pleated.

11.(original): The device as recited in claim 1 wherein said water collection tank comprises a sleeve surrounding said gas conduit so as to form an annular space adapted to receive water.

12.(original): The device as recited in claim 8 wherein said cap comprises a hemispherical
10 region.

13.(original): The device as recited in claim 1 further comprising a cooling ring positioned on said gas manifold at a point proximal to the means of gas egress, said cooling ring comprising a plate with one or more overflow ports and with gaps arranged along inner and outer peripheries of the plate so as to direct the fall of water.

14.(original): The device as recited in claim 11 wherein said manifold is corrugated.

15.(currently amended): A water heater comprising:

a longitudinally extending gas conduit terminating in a means of gas egress, said gas egress means being disposed in a vertically extending space in the water heater;

20 a sleeve surrounding said gas conduit so as to form an annular space adapted to receive water;

a means for contacting water with gas emanating from the gas egress means, said water contacting means being configured to prevent water from entering said gas egress means, said water contacting means being further configured to prevent the impedance of gas emanating said

gas egress means;

a means for water ingress to the annular space; and

a means for water egress from the annular space.

5 16.(original): The heater as recited in claim 15 wherein a vertical riser is integrally molded to said sleeve.

17.(original): The heater as recited in claim 15 wherein said conduit terminates with a vertical section extending upwardly into a tower.

18.(original): The heater as recited in claim 15 wherein the distance between the conduit and the sleeve remains constant along a longitudinally-extending region of the conduit.

10 19.(original): The hater as recited in claim 15 further comprising a heater overflow pipe and means to maintain the water temperature and volume within predetermined levels.

20.(new): A system for heating liquid comprising:

means for providing heated gas to a vertically extending space in a tower;

means for providing liquid to an upper end of said tower;

15 means for collecting liquid in a bottom portion of said tower;

means for removing heated liquid from said liquid collecting means;

means for preventing liquid from entering said heated gas providing means; and

means for preventing the impedance of heated gas emanating from said heated gas providing means.